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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/764,668	01/18/2001	Srikanth Krishnamurthy	HRL045	6275

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TOPE-MCKAY & ASSOCIATES  
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EXAMINER

MACE, BRAD THOMAS

ART UNIT PAPER NUMBER

2663

DATE MAILED: 07/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

### Application No.

09/764,668

### Applicant(s)

KRISHNAMURTHY ET AL.

### Examiner

Brad T. Mace

### Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 1/18/01 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Specification***

1. The disclosure is objected to because of the following informalities: "be" should be "by" on line 9 of pg. 8. The spacing of the definition of "Alternate Destination" needs to be corrected on pg. 11. "to" should be placed between "attempt" and "reach" on line 3 of pg. 17. Appropriate correction is required.

### ***Drawings***

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: reference 204 of Figure 2C. Corrected drawing sheets, or amendment to the specification to add the reference character(s) in the description, are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

3. Claims 1, 2, 4, 13, 17, 19, 22, and 35 are objected to because of the following informalities: "the new modified query" should be "the enhanced route query" on line 48

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of claim 1. "original route query" lacks antecedent basis on line 49 of claim 1; "a first route query" should be used instead. "the objective here is to try to discover nodes" on line 58 of claim 1 and on lines 57-58 of claim 19 is not proper claim language; this sentence could be modified as follows: "wherein nodes are discovered". There should be a comma after "component" on line 68 of claim 1 and the ";" after "then" should be removed on that same line and claim. "route discovery" lacks antecedent basis on line 9 of claim 2. There should be a space between "goto" on line 15 of claim 2. "this is possible because" should be removed from line 6 of claim 4 and on line 6 of claim 22, since it is not proper claim language. "thus" should be replaced with "wherein" on line 7 of claim 4 and on line 7 of claim 22. It is not understood in claim 17 lines 2-5 and in claim 35 lines 2-5, limitations a-c, that a data packet can include "a set of node neighbors" or "any nodes"; a correction is needed to clearly point out that a field in the data packet represents "a set of node neighbors" or "any nodes". "unit" lacks antecedent basis on line 9 of claim 17 and on line 9 of claim 35. The word "a" should be removed from line 2 of claim 4 and line 2 of claim 22. Claim 13 should be dependent upon claim 11, not claim 1 on line 1 of claim 13. "new" should be removed on line 48 of claim 19. "original" should be removed from line 49 of claim 19. Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear as to which protocol (intra zone?) is being terminated on line 22 of claim 1. Also, the word "suggested" on line 45 of claim 1, on line 64 of claim 1, on line 45 of claim 19, and on line 66 of claim 19 renders the corresponding limitations indefinite. "Suggested" could be changed with "indicated". Also, it is unclear as to what "method" (method for routing data?) on line 4 of claim 13 and on line 4 of claim 31 refers to.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claim 37 is rejected under 35 U.S.C. 102(b) as being anticipated by Pomalaza-Raez, "A distributed Routing Algorithm for Multihop Packet Radio Networks with Uni- and Bi-Directional Links" (reference submitted by Applicant).

Regarding claim 37:

7. Pomalaza-Raez discloses an apparatus for routing data (routing mechanism, paragraph 1, line 9, pg. 579) in a wireless ad-hoc network (packet radio networks, paragraph 2, line 1, pg. 579, and presence of mobile nodes, paragraph 2, line 9, pg. 579) when unidirectional links are present (paragraph 1, line 13, pg. 579) including an on-demand search mechanism (breadth-first search algorithm, paragraph 1, line 10, pg.

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579, can be executed when desired (on-demand)) configured to recursively attempt (step 10, pg. 581, where the algorithm is explained and states that the process continues until a search does not result in any new node being added (thus recursive)) to build a path to a destination node by identifying and utilizing nodes having a route to the destination (paragraph 2, lines 2-4, pg. 579) (since the nodes must have knowledge about the network topology, then they must identify and utilize nodes having a route to the destination).

***Allowable Subject Matter***

8. Claims 1-36 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

\*Haas discloses routing and mobility management protocols for ad-hoc networks

\*Larsson et al. discloses route updating in ad-hoc networks

\*Larsson et al. discloses broadcast as a triggering mechanism for route discovery  
in ad-hoc networks

\*Stiller et al. discloses traffic routing in small wireless data networks

\*Garcia-Luna-Aceves et al. discloses a system for communicating labeled routing  
trees to establish preferred paths and source routes with local identifiers  
in wireless computer networks

\*Pearlman et al. discloses using multi-hop acknowledgements to discover and

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reliably communicate over unidirectional links in ad hoc networks

\*Nesargi et al. discloses a tunneling approach to routing with unidirectional links  
in mobile ad-hoc networks

\*Wu et al. discloses domination and its applications in ad hoc networks with  
unidirectional links

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brad T. Mace whose telephone number is (703)-306-5454. The examiner can normally be reached on M-F, with the exception of every other Friday.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (703)-305-4798. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

btm

Brad T. Mace  
Examiner  
Art Unit 2663

btm

  
RICKY NGO  
PRIMARY EXAMINER